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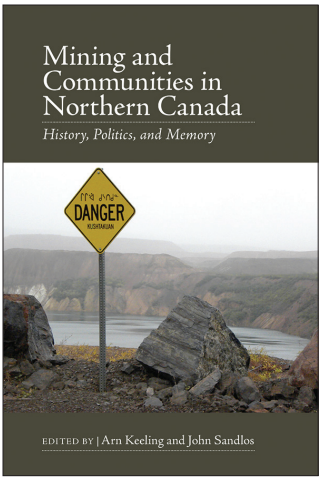

MINING AND COMMUNITIES IN NORTHERN CANADA: HISTORY, POLITICS, AND MEMORY

Edited by Arn Keeling and John Sandlos

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Mining and Communities in Northern Canada

History, Politics, and Memory

EDITED BY | Arn Keeling and John Sandlos

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Glossary of Key Mining Terms

Abandoned Mine: A site where advanced exploration (diggings, pits, trenches), or mineral extraction has ceased, without effective remediation or reclamation. This term is often used to refer to orphaned mines (see below).

Acid Mine Drainage: A pollution issue where mine wastes (tailings, waste rock, etc.) from sulphide rock formations react with air and water to produce sulphuric acid. The resulting acidic water has the potential to oxidize heavy metals (lead, cadmium, copper, etc.), exacerbating the water pollution problem.

Base Metals: Metals that are not considered precious (iron, copper, lead, etc.).

Cyanide: A chemical used to dissolve gold or silver in order to facilitate separation from ore.

Open Pit (or Open Cast) Mining: A mining method that removes ore deposits through the mechanized digging of large holes directly from the surface (usually after the removal of overburden such as vegetation and soils).

Ore Body: The entire body of rock and other material that is extracted to process and produce one or more valuable minerals.

Ore Concentrates: Produced through a milling process (often crushing and chemical separation) that results in a fine powder with a high percentage of the target metal. Ore concentrates are not a finished product, but are often produced in situ for more efficient transport to a smelter.

Ore Reserves: An assessment of the total amount of ore that can be extracted to produce minerals, usually categorized as possible, probable, or proven.

Orphaned Mine: An abandoned mine for which no private owner can be identified in order to establish liability. Such sites typically revert to public ownership and responsibility.

Placer Mining: Recovery of surface or stream-bed deposits of a target mineral (often gold), typically by washing, dredging, or hydraulic mining.

Prospecting: The earliest stage of the development process involving the active search for possible mineral claims.

Reclamation: A process of converting abandoned (or soon to be abandoned) mining lands to a usable state, as opposed to allowing them to become derelict.

Rehabilitation: In mining landscapes where full restoration (see below) is impossible, a partial repair of the structure and function of the previous ecosystem.

Remediation: Environmental cleanup at operating or abandoned mines, usually focused on lands and waters contaminated with heavy metals, radiation, and other toxic substances.

Restoration: An attempt to address the ecological impacts of mining through a return (as nearly as possible) to the ecological conditions that existed prior to mining.

Strip Mining: Mining near the surface through the removal of overburden and scraping of the ore over large areas. Strip mining is common with coal and sometimes bitumen deposits.

Tailings: Waste material (often a fine dust or slurry) emitted from an ore-processing mill after separating valuable minerals from the surrounding ore.

Tailings Pond: An artificially constructed body of water meant to confine tailings and prevent associated toxic material from spreading to local bodies of water or escaping as airborne dust. Leakage from tailings ponds has historically proved a major problem at mining operations.

Underground Mining: Removal of valuable minerals through the digging of mining shafts, tunnels, and chambers.

Waste Rock: Larger chunks of rock (and sometimes coarse gravel) produced through the mining process but containing no valuable minerals. Waste rock is often left in large piles at abandoned mines, but can also be used as construction material for roads or as fill during reclamation activities.

A Note on Terminology

Throughout this volume, we generally use the terms *indigenous* to connote first peoples in a global context, *Aboriginal* and *Native* to indicate first peoples in a Canadian context, and *First Nations* or *Inuit* to describe distinct cultural/linguistic groups or legally recognized bands in Canada.

TABLE 1: Summary of key locations and characteristics of case study mine sites

Mine	Relevant Chapter	Operational Period	Mineral Type	Extraction Methods	Province or Territory	Nearby Towns	Aboriginal Groups
Rankin Inlet Nickel Mine	1	1957-62	Nickel	Underground	Nunavut	Rankin Inlet (Kangiqiniq)	Inuit
Port Radium	2	1933-40; 1942-60; 1975-82	Radium-uranium-silver	Underground	Northwest Territories	Cameron Bay, Déline	Sahtúot'ı̨nę (Sahtu Dene) of Déli̦nę
Keno Hill	3	1913-17 1919-89	Silver-lead-zinc	Underground	Yukon	Keno City, Elsa, Mayo	Na-cho Nyäk Dun
Carol Lake Mine	4	1962-present	Iron	Open pit	Newfoundland and Labrador	Labrador City, Wabush	Innu
Pine Point	5	1964-1989	Lead-zinc	Open pit and underground	Northwest Territories	Pine Point, Fort Resolution, Hay River	Deninu Kue (Dene) First Nation, K'at'odeeche (Dene) First Nation
Schefferville Mining District	6	1954-1982	Iron ore	Open pit	Northern Quebec	Schefferville	Naskapi Nation of Kawawachichamak; Innu Nation of Matimekush-Lac John
Athabasca oil sands (several projects)	7	1967-present	Bitumen	Surface mining	Northern Alberta	Fort McMurray, Fort McKay	First Nations of Athabasca Tribal Council (Cree, Dene)
Nanisivik	10	1974-2002	Lead-zinc	Underground	Nunavut	Arctic Bay (Ikpiarjuk)	Inuit
Polaris	11	1982-2002	Lead-zinc	Underground	Nunavut	Resolute (Qausuittuq)	Inuit
Giant Mine	12	1948-2004	Gold	Underground and open pit	Northwest Territories	Yellowknife	Yellowknives Dene First Nation

Introduction: The Complex Legacy of Mining in Northern Canada

Arn Keeling and John Sandlos

In the midst of his annual northern tour in August 2011, Prime Minister Stephen Harper visited the Meadowbank Gold Mine, one hundred kilometres or so north of Baker Lake, Nunavut. Speaking in front of assembled workers and massive ore-hauling trucks, Harper hailed the mine—Nunavut's only producing site at the time—as a beacon of future prosperity for the people of the Arctic, and promised his government would help industry "unlock development possibilities in the North."[1] The PM reiterated these grand pronouncements to party supporters in Yukon the following year, when, echoing former Conservative Prime Minister John Diefenbaker, he declared that "the North's time has come" and that mineral development would help fulfill a "great national dream."[2]

Fast-forward to early 2013: as gold prices continued their long slide in the wake of the global recession, Agnico-Eagle, the company that owns Meadowbank, announced that it would close the mine three years earlier than planned (in 2017) and shift operations to another northern site. Mineral exploration funds began drying up, and new development proposals were scaled back across the North. Most dramatically, the massive Baffinland Mary River iron mine project in Nunavut radically curtailed its investment and development plans, cancelling a proposed railway and port development on Baffin Island and scaling back its project investment to $740 million from an initial projection of $4 billion.[3]

These events illustrated, in a very short time frame, the extreme volatility of the mining sector and the uncertainties that stalk mining-dependent communities and regions. Since the early 2000s, this industry has seen strong growth, as global demand and concerns over mineral scarcity began driving a "commodity supercycle" that spurred strong investment.[4] High mineral prices meant companies began to seek opportunities in regions previously considered too remote or expensive to operate profitably, including Northern Canada. Exploration and development expenditures skyrocketed, attracting renewed interest in historic mining areas—whether former mines or previously explored but unexploited deposits—that had been idled by the industry's prolonged slump in the 1980s and 1990s. After the "bust" that closed mines and destroyed communities in the 1980s, mining seemed ready to "boom" again in the heady days of the pre-recession 2000s. Most observers remain cautiously optimistic about the medium to long-term trends in commodity prices, and the prospects for northern development, but there's little doubt recent bumps in the road to northern riches have caused some to reflect on the industry's risks, as well as benefits.[5]

As a historian and a historical geographer, our perspective on these developments is informed by the long view of mining's place in Canada's northern and national history. Hardrock mining was the most important activity that brought industrial development to Northern Canada in the twentieth century. Large-scale industrial mining projects in the Canadian North began to appear even as placer gold mining in the Klondike began to decline in the early part of the century. Before 1945, industrial mining was concentrated at three main sites across the North: the Keno Hill silver camp near Mayo in the Yukon, the radium/uranium mines around Port Radium, NWT, and the gold mines at Yellowknife, NWT (Map 1). Surging postwar demand for industrial and strategic minerals, fuelled by both Cold War military needs and an expanding consumer society in North America, stimulated widespread exploration and development in the Canadian North. The postwar boom saw several major new developments, including the lead-zinc deposits at Pine Point, NWT, lead deposits at Faro in the Yukon (the Cyprus-Anvil Mine), and nickel at Rankin Inlet, NWT (now Nunavut), as well as the expansion of gold mining in the Yellowknife district.

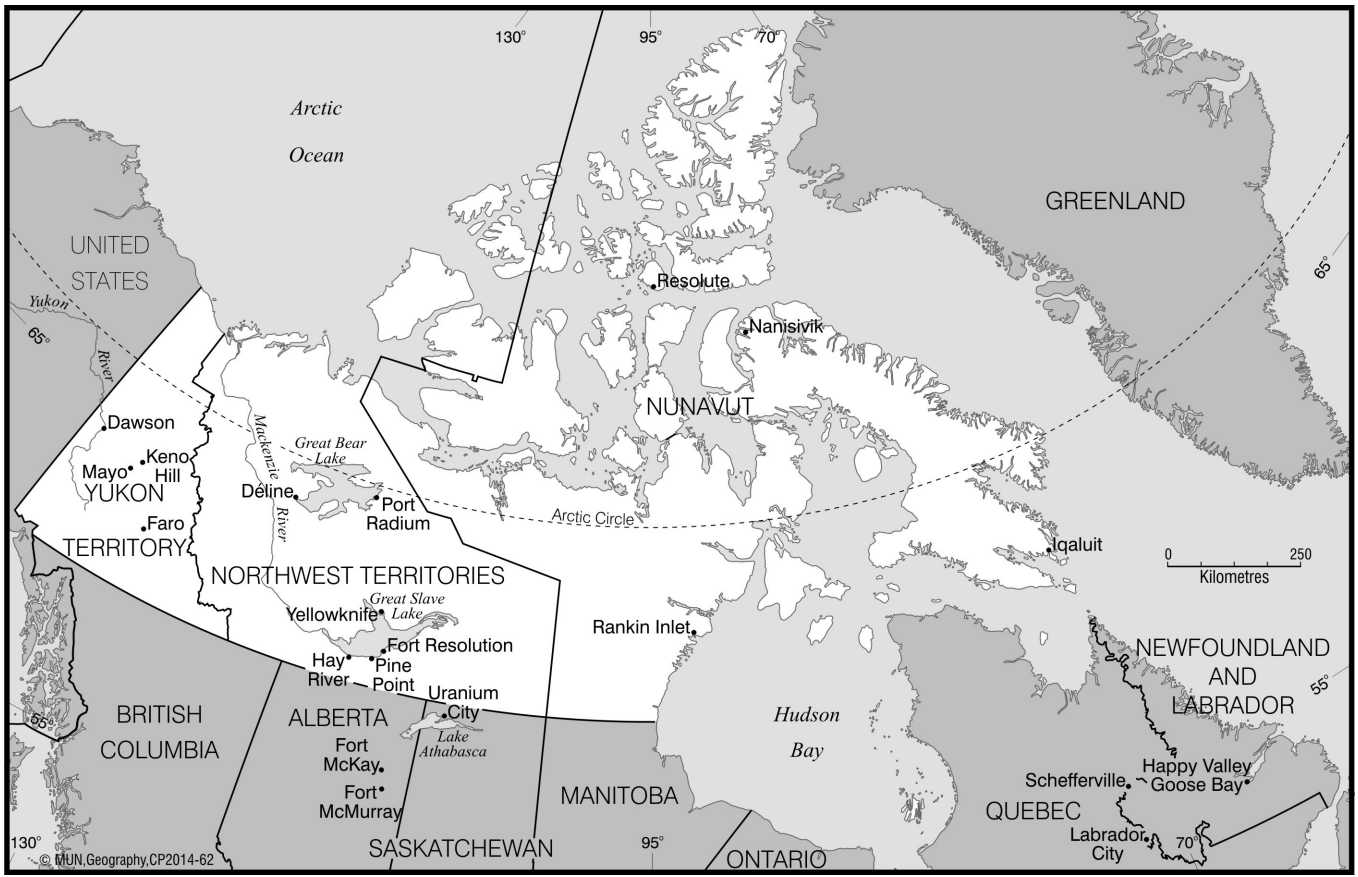

Figure 1: Locations of case study mines and communities in Northern Canada. Map by Charlie Conway.

Despite the relatively small number and wide geographic dispersal of these mines, industrial mining had a transformative impact on the North. By the 1950s, metal mining and fuel production (the latter almost entirely for local consumption in industrial developments and settlements) accounted for over 80 per cent of territorial economic output.[6] Mining in the provincial norths also expanded, including major iron mines in Quebec and Labrador (Schefferville, Labrador City), uranium developments in Saskatchewan and Ontario, and several base metal mines in northern Manitoba. Mineral development in this period stimulated non-Native exploration and settlement, investment in infrastructure from roads to railways to power developments, and the increasing integration of these once-remote territories into the national economy. Yet the costs of such development have become increasingly evident in recent decades. Former mine sites have left in their wake not only a toxic legacy of tailings ponds and waste rock dumps, but also a history of social and economic dislocation that continues to disproportionately impact northern Native communities. The promise of development and prosperity for northern regions—the "northern dream" of prime ministers since John Diefenbaker—has frequently delivered only ephemeral benefits, while leaving behind lingering social and environmental problems.

Mining and Communities in Northern Canada traces the history and legacies of the region's encounter with industrial mining in the twentieth century. With chapters spanning Canada's territorial north (and two provincial norths), this book aims to place the contemporary mineral boom (and accompanying hyperbolic rhetoric) into a critical historical context, as well as documenting the tremendous environmental, economic, and socio-cultural changes wrought by this transformative industry. Certainly the northern mining industry imported many significant historical tensions and contradictions worthy of their own book-length analyses, not least the ongoing conflict between capital and a labour force composed largely of outsiders. However, the studies in this volume focus largely on the often-neglected historical experiences of northern Native communities and their encounters with mineral development. Addressing the paucity of detailed historical studies on mining in the region, this volume represents an important collective contribution to our understanding of northern history, industrial development, and

environmental change in the North, even as the region stands on the brink of another transformative period.

Most of the chapters emerged from a research project based at Memorial University called "Abandoned Mines in Northern Canada," which sought to illuminate the complex historical geography of mineral development, as well as its impacts on local communities and environments in the North. Generous funding from the Social Sciences and Humanities Research Council, ArcticNet, the Northern Scientific Training Program and other sources enabled the recruitment of talented students who, along with the project leaders and other collaborators, undertook extensive archival and field-based research in northern communities. Using a series of abandoned mines—sites of mineral exploration, development, and production that had ceased operation—as case studies, project researchers explored the impacts of industrial modernization on northern communities and environments, as well as the contemporary problems related to closure, abandonment, and remediation of these sites. In addition to producing a series of fine theses related to their case studies, many of the students involved in the project contributed chapters to this book. In addition, project partners from the communities themselves feature not only as informants or research partners in the field, but also in some instances as chapter authors.[7] The result (summarized at the end of this introduction) is a unique collaborative volume documenting the complex and contentious historical engagement with mining in the twentieth-century North.

FRAMING CANADA'S NORTHERN MINING HISTORY

If our encounters with northern mining people and landscapes provided the most immediate and powerful influence on the chapters contained herein, our collective attempts to contend with the vast and complex historical literature on Canadian and international mining have also shaped our work in profound ways. From the outset of the project, Harold Innis's foundational work on the rise and fall of hinterland staples economies provided a key pathway into our study. Although certainly not a new

perspective, Innis's analysis of economic vulnerability among communities dependent on single resources provided a template for understanding the patterns of boom and bust in northern mining developments whose fate was often determined by distant economic forces. Ironically, Innis's most important work on mining, *Settlement and the Mining Frontier*, was quite positive about the economic impact of the Klondike gold rush and optimistic about the potential for mining to spread modern energy and transportation infrastructure throughout Northern Canada.[8]

Innis's boosterism reflected a broader optimism about northern development in the 1920s, but his staples thesis nevertheless influenced a newer generation of scholars who analyzed more critically the cyclical nature of northern mining development. In a series of articles, geographer John Bradbury examined the massive post–World War II development of the Quebec–Labrador iron ore range, highlighting the rise and near-collapse of communities such as Schefferville.[9] In a more theoretical vein, Trevor Barnes and others have elaborated on Innis's concept of cyclonics, the idea the hinterland resource developments proceed in storm-like fashion, with a sudden flood of capital, labour, materials, and knowledge into remote areas that dissipates just as suddenly when conditions change.[10] Even the few American environmental historians who have turned their gaze northward to Alaska or the Yukon emphasize the deep connection of mining to distant metropolitan centres where materials, animals, people, and capital are mobilized for the single-minded exploitation of a single resource, and where overdependence on these "paths out of town" can lead to economic shock and collapse in mining's instant towns.[11] Mining is a risky business in remote regions such as the Canadian North: high transportation and operating costs combined with vulnerability to volatile markets have often made community breakdown and economic collapse the inevitable endgame for northern mining towns.

But what of the Native communities that predate the development of mining in the Canadian North? Too often the staples-inflected literature has focused only on the rise and fall of largely non-Native mining towns, stories that ignored First Nations and Inuit communities who experienced sudden and rapid social, economic, and environmental change due to mining, and who persisted in spite of the abandonment of adjacent

mining activities. As we began our research, we found surprisingly little scholarly work on this theme, particularly from a longer-term historical perspective. Much of what has been done stems from the work of NGOs such as MiningWatch and the Canadian Arctic Resources Committee, or emanates from the formal assessment processes and reporting requirements of mines with significant environmental liabilities.[12] Aware of the burgeoning literature on mining and indigenous conflicts in the US Southwest, Australia, Africa, and Latin America, we immediately sought to frame mining in Northern Canada within the global literature on environment and justice.[13] We ultimately adopted historical political ecology as a major theoretical frame for our work, a geographical subdiscipline that highlights the unequal distribution of environmental harms and benefits due to colonial environmental management and resource production schemes in Third World regions. We argued that the territorial north in the twentieth century, much like these other resource extraction zones in the developing world, was a thinly populated but still largely indigenous space where the long reach of mining severely impacted pre-existing subsistence economies, provided few local employment or investment opportunities, and often left severe environmental problems with which Aboriginal communities have to contend.[14]

The historical political ecology framework thus helps connect mineral development's local impacts and conflicts to larger questions surrounding the links between political economy, state-led or promoted development projects, and the settler colonial dispossession of indigenous people.[15] In Canada, past northern development visions and policies have been strongly linked to the exploitation of the region's natural resources; particularly after the Second World War, politicians and bureaucrats promoted resource development, especially mining, as the key to assimilating northern people and territories into the national economy.[16] Throughout much of Arctic and Subarctic Canada, this agenda advocated the transition of Aboriginal economies away from land-based subsistence and trade economies, and toward wage economies and settlement life—often with dire consequences for Aboriginal people themselves.[17] Our research has found, similar to cases in the developing world, that the southern Canadian perception of the North as both an underdeveloped territory and as a potentially rich resource frontier underwrote

industry-friendly government policies and subsidies for industrial infrastructure, including dams, townsites, roads, and railways, all of which further affected Native communities and territories.

These impacts were most stark at major mines where Native communities faced acute toxic threats or other environmental clean-up issues over the long term: sites such as the Port Radium mine, the Cyprus-Anvil lead-zinc mine, the Pine Point Mine, or the Giant Mine. Indeed, many chapters in this volume reveal that Native people maintain strong feelings of historical injustice about the social and environmental legacies of mining in their regions. Some regard mining as a key agent of colonialism in their region, bringing sudden influxes of outside workers, instant communities, state agencies, and environmental degradation, all of which combined to compromise subsistence economies based on hunting and trapping.[18] For instance, particularly in early to midcentury developments, mines drove significant local deforestation through their voracious demand for wood for fuel and construction.[19] Many large northern mineral developments were accompanied by hydroelectric dams (including at Faro, Pine Point, Yellowknife, Uranium City, Lynn Lake, and Schefferville) in order to power towns and industrial facilities, dams that altered local rivers and displaced land users.[20] In places such as Port Radium or Yellowknife, Native people were exposed to acute and low-level toxic contaminants (radiation at the former site, arsenic at the latter) that caused death and illness in some cases. The precise health and ecological impacts of past mine pollution is difficult to assess due to the inherent limits of historical epidemiology (and poor contemporary monitoring practices), but the persistence of pollutants long after the closure of these mines has contributed to a sense that the land is sick and dangerous rather than a source of sustenance.[21]

Very often the impacts of mining and its related developments occurred alongside the other profound environmental, social, and health challenges that northern Native people faced throughout the twentieth century. New diseases, acute hunger, poor nutrition associated with store-bought food, declining fur trade economies, community relocations, military activities, and poor housing often coincided with mining development or arose as a direct result of conditions within mining communities, as many of the case studies make clear.[22] In spite of these

wide-ranging changes, for northern Native communities on the front lines of toxic or radiological exposure due to mining, the use of their traditional lands as repositories for pollution and waste is often remembered as the most significant of the changes that outsiders brought with them.

As with other historical works highlighting the dire ecological impacts of mining, it was difficult to conclude that the environmental issues associated with northern mining could lead anywhere but to stories of decline and dislocation.[23] However, a major challenge to this negative perspective has come from what might loosely be described as the "resilience school" of mining history. Inspired by the pioneering work of geographer Richard Francaviglia (and perhaps influenced by the general revolt against "declensionist" narratives among environmental historians and historical geographers), several scholars and popular writers have argued against a "mining imaginary" in which the death of mining communities and environmental catastrophe inevitably follow the closure of a mine. Mining communities, these writers suggest, often survive after the end of mining, through any combination of economic diversification, mining-related tourism, redevelopment (as sites of mineral production or as brownfield redevelopments for other industries), or large-scale ecological restoration projects. Central to these studies is the idea that mining communities identify very strongly with their own history; meaningful commemoration of mine work, community life, and mining landscapes remains a key concern in many mining towns facing closure and remediation.[24]

In Northern Canada, factors such as distance and limited infrastructure present very real challenges to the survival of mining communities, but we did find ample evidence of resilience and a strong mining identity among former mining communities in the region. Since the final closure of the Giant and Con gold mines adjacent to Yellowknife in the early 2000s, the city has thrived as a government town (it is the territorial capital) and as a supply and labour centre for the major diamond mines that commenced operation on the tundra to the northeast in the late 1990s. The city still retains a strong identification with its origins as a mining town: local history societies have published several oral histories of life in the early gold mining years, while the NWT Mining Heritage

Society hopes to develop a museum preserving some of the industrial heritage (including at least one headframe) at the Giant Mine site.[25] Former Inuit miners in Rankin Inlet also maintain a strong identification with the community's mining history, while the community has survived as a relatively large (by northern standards) government and service centre, and regional transportation hub.[26] Other sites such as Port Radium, the Keno Hill silver mines, and the Quebec-Labrador iron region have received almost hagiographic treatment in popular histories produced by former mine officials or in histories commissioned by mining companies.[27] Some of our other case study towns, such as Schefferville, Quebec; Uranium City, Saskatchewan; and Keno City, Yukon, clung to life despite being depopulated when the mines closed due to plunging mineral prices in the 1980s, and now anticipate a rebirth if commodity prices remain high and redevelopment of abandoned mineral deposits moves forward. Even in cases where the physical community did not survive, former town residents keep the memory of their community alive. One example is Pine Point's very active web-based memorial, a grassroots commemoration that was recently highlighted in a brilliant online interactive documentary by the National Film Board.[28] Mining towns in Northern Canada sometimes *do* survive the collapse of their main raison d'etre, whether they are sustained by new economic activity or kept alive in the memories and virtual worlds of former residents.

How to reconcile the theme of resilience with the historical political ecology framework we had adopted became a key question for our collective work on abandoned mines. Ultimately we found that many Native communities exhibited their own forms of resilience both during and after mining boom periods, taking advantage of wage labour opportunities when presented but also returning to hunting and trapping activities when prices were favourable. From very early in our research, we realized it was too simple to suggest that Native northerners were simply the passive victims of mining. Native people took advantage of opportunities in the mining industry when they could, adapting to mineral development through strategies that ranged from engaging in ad hoc labour to eventually applying political pressure for the establishment of Inuit and Dene mineral rights and/or royalty regimes through impact and benefit agreements and the comprehensive land claims process.[29]

And yet, abandoned mines in Northern Canada remain places that are too deeply contested to fit neatly within the resilience framework. Indeed, the resilience school too often ignores the multiple ways in which mines impact communities, particularly in light of the colonial and political ecology context that we highlight above. For many researchers on this project, one of the most remarkable findings was the extent to which many Native northerners embraced the complexity of their mining histories, critiquing the colonialism and environmental degradation that were invariably tied to mining on the one hand, but minutes later expressing the same pride in their work and nostalgia for the good old mining days as their non-Native former co-workers. As so many of the people we spoke with stated in many different ways, mining often brought with it a complicated and mixed legacy.

Nowhere are these deep contradictions surrounding mining history more acute than the contemporary debates surrounding the remediation and redevelopment of many of our case study mines. Again, contrary to the arguments of the resilience school, the "afterlife" of mines can have extremely negative implications for northern Native communities. Many northern mines live on as sources of local controversy because of severe long-term environmental degradation, where legacies including massive landscape changes, waste rock piles, abandoned industrial facilities, and toxic contaminants such as heavy metals, acid mine drainage, or radioactivity have forced the federal government to establish expensive remediation programs. In addition, prompted by recent spikes in mineral prices, many abandoned northern mines are being resurrected through redevelopment of remaining ore deposits—in some cases simultaneously with remediation of the original mining development. We have come to think of these examples as "zombie" mines, because in their afterlife they continue to haunt communities with many of the same issues—environmental risks, unequal wealth distribution, decision making by outsiders—that emerged with the original development.[30]

Even where projects are undergoing only remediation—often assumed to be a form of healing the land—the mobilization and containment of toxic material and the perpetual care and monitoring required at some sites raise profoundly complex issues associated with community risks and intergenerational equity. In 2002 a federal Auditor General's

Figure 2: Yellowknife, NWT's abandoned Giant Mine in 2008, before remediation activities began. Remediation costs at Giant are expected to exceed $1 billion. Photo by Arn Keeling.

report prioritized thirty abandoned mines in the territorial north as requiring remediation, with an estimated cost of $555 million (a very low figure given the fact that remediation for the Giant Mine alone is forecasted to cost over $1 billion).[31] As of this writing, Aboriginal Affairs and Northern Development Canada is conducting remediation activity, planning, and/or monitoring programs at seventeen of these sites, with four simultaneously undergoing redevelopment.[32] During the course of our research, we have been able to document community memories and contemporary reactions to six mines in the territorial or provincial norths that exhibit zombie-like characteristics—Giant, Keno Hill, Pine Point, Nanisivik, Rankin Inlet, and Port Radium—as well as the proposed redevelopment of iron deposits near Schefferville. These examples represent only a small fraction of abandoned mines in the Canadian North or the thousands of sites globally, but they reveal the complex and multifaceted ways that the fractious histories and community memories of cyclonic development projects in Northern Canada have profoundly shaped local responses to contemporary mine remediation efforts.

UNDERSTANDING MINES THROUGH ORAL HISTORY

Local memories of abandoned mines have persisted in much the same way as the after-effects of the sites themselves. In most of our case study communities, we found that undertaking oral history research was essential to capture the varied local memories of mining and to document the complex and layered community stories that rarely emerged in archival documents or government reports. A lively scholarly and popular literature on mining and communities makes extensive use of oral history in order to document the experiences of workers and families in these uniquely hardscrabble settings.[33] Oral histories have also explored the environmental degradation associated with mining, while highlighting the various ways these "wasted" landscapes are perceived by area residents themselves, who may identify positively with industrial ruins or mine waste sites.[34] In this way, oral history permits researchers to explore the multiple meanings and experiences of mining places.[35] Ranging from collections of edited transcripts to the use of oral interviews in conjunction with ethnographic, archaeological, and archival sources, oral history is regarded as a potent source for the documentation of otherwise "hidden voices" of mining history.

Typically absent from this body of oral history work is the experience of Native people in many mining regions. Few studies in Canada have used oral history to capture indigenous people's parallel historical development of mining identities and their experience of mine closure, either as workers or as broader participants in local economic and settlement life.[36] As people with lifeways and knowledge systems intimately tied to local environments, northern Native communities often have borne the brunt of the environmental changes associated with mining, whether deforestation, local resource depletion caused by habitat change and harvesting by newcomers, or pollution and toxicity stemming from mining and mineral processing wastes. Indigenous oral histories can also provide important insight into these processes and experiences of mining-driven environmental change.

Our initial motivation, then, for using oral history was one common to many practitioners: to address the gaps in the archival record and to

explore the hidden histories and untold experiences of industrial development in the North. Most of the chapters in this volume include detailed archival research in federal and territorial archives, which document government policy and, to a lesser extent, corporate and individual mining-related activities in the North.[37] But Native voices are conspicuously absent from the vast government archival record on northern mining, despite the fact that responsibility for Aboriginal affairs and northern development rested within a single federal department—the Department of Northern Affairs and National Resources, in its various incarnations—after the Second World War. Where Native people are present, they appear as objects of state policies around employment, settlement, or interactions with non-Native newcomers; rarely, before the 1970s at least, were Native people's opinions, reactions, or experiences of development recorded or sought. Our interest in "recovering" Native experiences with industrial development resonates with one of the core motivations of oral historians: to record (literally and figuratively) these ignored stories and thereby to challenge dominant historical narratives.[38]

In the process of engaging with communities and individuals over the course of this project, however, some of the paradoxes of this approach became apparent, prompting a deeper reflection on questions of positionality and knowledge of the sort urged by advocates of indigenous methodologies.[39] Although the communities and individuals we worked with expressed enthusiasm for documenting their stories, the notion of "restoring hidden voices" to the public transcript in many ways reflected our own outsider status and interests (as southern, non-Native academics and students).[40] It quickly became apparent that stories of industrial development and environmental damage are far from "hidden" in the communities themselves; rather, they continually circulate and are mobilized from time to time in communities' ongoing engagements with land-use planning, land claims, and new development proposals. This question also arose when we returned to communities to report on the results of the oral history studies, which sometimes placed us in the awkward position of repeating to community members their own stories. It has become important for us to recognize that the absences in the archival record and ignorance of southern Canadians (including scholars)

regarding Native experiences do not necessarily extend to the communities themselves.

Similar questions arose surrounding cross-cultural communication, translation, and representation in this project. As outsider researchers, we typically worked with community researchers, who participated in the research process by connecting us with informants, asking questions themselves, or translating interviews with elders who preferred to speak their language. These community researchers represented a vital bridge between ourselves as non-Native visitors (and, to informants, unknown quantities) and these knowledge-holders. Nevertheless, questions of translation—both linguistic and epistemological—remain. With respect to language, the two-way communication of an interview became mediated through a third party and the back-and-forth translation of ideas and terms, raising ample potential for misunderstanding and miscommunication. Where possible, we have sought full translations of interviews after the fact, but the potential gulf in meaning and understanding remains, however tentatively bridged by our able translators. As outsiders and non-Native people, we do not expect to share or completely understand Native knowledge and experience; we also recognize that, because they were speaking to outsiders, interviewees may have chosen to share certain versions of stories with us, based on the questions we asked. In that sense, we follow Linda Shopes and others in regarding oral histories as products of this interaction, rather than as objectively collected "knowledge."[41]

In this dynamic of the co-production of knowledge, the outcomes of oral history research are best regarded in terms of shared authority and negotiated meanings. Shopes suggests this shared authority is a check on all participants in the oral history process: "Scholars do not get to exercise critical judgment quite so forcefully or conform to current historiographic thinking quite so deftly; laypeople do not get to romanticize the past quite so easily."[42] Nevertheless, our ongoing interpretation and re-presentation of these interviews becomes a further layer of mediation between the informant and various audiences (including the readers of this volume). As we began to undertake transcription (itself a problematic textual rendering of oral expression) and analysis of our interviews, we confronted questions of respectful yet critical representation of this

knowledge in both public and scholarly contexts. Concerns about reliability and validity stalk oral history: in analyzing stories about industrial development and environmental change, we remain alert for the effects of nostalgia or "social memory" in shaping individual recollections of particular events and issues.[43] Nevertheless, we have approached the oral history component of the project not with the desire to document concrete events or specific environmental impacts (i.e., to answer questions of causality or proof), but rather with the goal of capturing personal and collective experiences and perceptions of mining-induced social and environmental change. As archaeologist Karen Metheny asserts, "Oral history, then, is as much an exercise in verification as it is learning how people create their own versions of the past and determining the meaning of those constructions."[44] Thus, we regard oral stories not as hard "evidence" about environmental and social change (although respondents have often suggested environmental impacts and problems not well documented in the archival record), but rather as personal insights enriching and deepening narratives of industrial development with grounded, individual experiences and observations.

In seeking these stories, it was critical to acknowledge community motivations (collectively represented by First Nation, Métis, and Inuit governments or other organizations) and the interests of individual participants themselves in sharing their experiences, and to undertake the research through processes and agreements approved by them. Each of the case study communities brought varying motivations and levels of participation and oversight to the research. In some cases, our proposals to study the mining past were greeted with more or less instant enthusiasm. In other cases, relationship building took repeated visits and discussions over years. In all cases, the communities' engagement with the research (quite properly) reflected their interest in documenting the past, whether for the purposes of land claims, resource management, and regulatory processes, or simply recording for posterity elders' experiences with mining and the coming of non-Native settlement. Rather than limiting or biasing the research, these interests validated our presence in the community and the goals of our study, while allowing us more or less free rein to conduct the interviews as we saw fit. Guided by the Tri-Council Policy on Ethical Conduct for Research Involving Humans

(TCPS2),[45] project researchers also followed the relevant community, territorial, and institutional protocols for gaining informed consent from participants. While particular individuals and organizations are acknowledged in each of the chapters, it is appropriate here to acknowledge and thank the many northerners who worked with us to help make this research possible.

Rather than undertaking "life history" or traditional knowledge studies, we employed a semi-structured, "directed interview" technique that sought to highlight individual experiences and knowledge of mining and the local environment. Because we aimed to document lived experience of events that were (mostly) within living memory of the subjects, we did not seek folkloric or other stories of a "traditional" nature (though ironically, most of the research agreements we established with First Nations are governed by traditional knowledge protocols). This approach had benefits and costs. While it enabled a focused and purposeful interview (allowing respondents to direct the discussion as they saw fit), it perhaps divorced the topic somewhat from the wider contexts of interviewees' lives: family, community, land, and culture.[46] Whether or not interviewees worked there or had strong opinions about it, the mine was likely not the central feature of their lives—except perhaps during the hour or so spent in conversation with researchers. These contexts nevertheless occasionally forced their way into the transcript, through references to family origins, histories of movement, or important personal milestones, and provided important glimpses of interviewees' lives.

The result is a rich tapestry of personal and community memories and stories from small mining towns ranging from the High Arctic to the provincial northlands; from Nunatsiavut, Labrador, in the East to Mayo, Yukon, in the West. The vastness of the subject matter and the geographic territory, not to mention the usual constraints of time and budgets, prevented us from covering all major mining developments in Northern Canada. Indeed, some major historical mines such as Con Mine near Yellowknife, the Cyprus-Anvil Mine in the Yukon, and the uranium mines of northern Saskatchewan receive only brief mention in this book. Innumerable smaller mineral developments are ignored. We chose our existing case studies in part because of their size, longevity, and severity of local impacts, but also based on the extent to which individual mines

represented the leading edge of mineral-led colonialism in particular regions of Northern Canada. Keno Hill silver mine, for instance, was the first industrial mine in the territorial north; other sites were the first to push mining into remote regions such as the Eastern Arctic (Rankin Inlet), the Arctic Islands (Polaris and Nanisivik), isolated areas along the Quebec–Labrador border (Schefferville and Labrador City), and the south side of Great Slave Lake (Pine Point). Certainly we wanted a collection that represented diverse regions of Northern Canada (including examples from the provincial norths) and a variety of time periods, but individual research interests and life experiences (some authors live close to their case studies) also shaped the choices of cases and subject matter in this book.

The first section of the book focuses most intensely on our oral history research projects and the complex community memories of mining in Northern Canada. Arn Keeling and Patricia Boulter's chapter highlights Inuit memories of the North Rankin Nickel Mine, the first large-scale Arctic mining project, opened in 1957, and the first to employ Inuit labour as a deliberate social and economic development strategy. The chapter traces the challenges faced by the Inuit, but also their strategic adaptation, during the rapid transition "from igloo to mine shaft," arguing that Inuit developed a strong identity as miners even as they critiqued shortcomings of the project such as poor housing and the short five-year life of the mine. In the second chapter, Sarah Gordon analyzes one of Northern Canada's most controversial mining sites, the Port Radium mines that produced radium and then uranium from the eastern shores of Sahtú (Great Bear Lake) from 1931 to 1960 (and intermittently produced silver until 1982). The mine is notorious, not only for its contribution of uranium to the Manhattan Project, but also due to the controversy surrounding radiological exposure among Dene workers from Délı̨nę. Gordon highlights how community memory surrounding the discovery of pitchblende (which they contend was passed on by elder Old Beyonnie rather than "discovered" by legendary prospector Gilbert Labine) intersects with more recent attempts to reconcile the colonial past of the mine with community healing in the present. In Chapter 3, Alexandra Winton and Joella Hogan trace the long history of interaction between the United Keno Hill Mine and the Na-Cho Nyäk Dun First

Nation in the central Yukon. Through a close reading of the experience of one elder, Henry Melancon, the authors argue (similar to Keeling and Boulter) that the mines brought a mixed legacy of opportunities and negative impacts, historical experiences that inform contemporary reactions to Alexco Resource Corporation's ongoing simultaneous remediation and redevelopment of the old mining area. Jane Hammond's work in Chapter 4 moves away from northern Native communities, instead providing an oral history that accounts for gender relations in the iron-mining town of Labrador City. Hammond's work reveals that, despite women's advances in the workforce elsewhere in Canada in the 1970s, social pressure, company policies, and masculine workplace culture meant that women entered mine work only very slowly in Labrador City, often finding themselves caught uneasily between the twin pressures of the domestic and wage labour realms. John Sandlos's final chapter in this section surveys the intensive oral history research conducted in Fort Resolution, NWT, near the massive Pine Point lead-zinc mining complex that operated on the south shores of Great Slave Lake between 1964 and 1988. The many collected memories of individuals suggest a mixed historical legacy for mining in the region, with interviewees recalling their great fondness for mine work and town life, while at the same time lamenting the negative social, economic, and environmental changes that accompanied the introduction of mining to their region. As with the previous studies, oral history research throws into bold relief the manner in which northern Native communities remember mining, in the words of one interviewee, as a mix of the good and the bad.

However remote they may be geographically, northern communities are never isolated from the political and policy frameworks that simultaneously promote and regulate mining development in Canada. The second section of the book thus examines the many ways that northern communities have attempted to insert their voices into provincial, territorial, and federal regulatory processes or to directly engage mining companies. In Chapter 6, Jean-Sébastien Boutet evaluates the Quebec government's *Plan Nord*, a comprehensive northern development program centred on major hydro and mineral projects, in light of the mixed legacy of the abandoned iron mines near Schefferville. Boutet suggests that previous mine closures and the sudden loss of a wage economy at Schefferville

continue to haunt contemporary discussions of development among the Innu communities of Matimekush–Lac John (Schefferville) and Uashat mak Mani-utenam (Sept-Îles), despite current promises of long-term jobs and prosperity. Hereward Longley, in Chapter 7, turns toward the initial period of oil sands growth in the 1970s, tracing the attempts of the Fort McKay First Nation to assert some control over the economic and environmental impacts of development through the courts and regulatory hearings. Andrea Procter's chapter examines the growth of an Inuit rights discourse in response to uranium exploration in northern Labrador, an assertion of resource claims that was expressed formally through the emergence of the Labrador Inuit Association in the 1970s and the land claims process that produced Nunatsiavut in 2005. And yet, even though resource rights and land claims may represent a step forward from total exclusion of Inuit from development, Procter questions whether granting Inuit a share of the dominant development paradigm may also represent an entrenchment of neoliberal ideas of self-sufficiency and economic autonomy from state "handouts." In a similar vein, the final chapter of this section, by Tyler Levitan and Emilie Cameron, provides a pointed critique of the recent move toward impact and benefit agreements (IBAs), the private deals that are now typically struck between mining companies and northern Native communities in order to delineate jobs, economic benefits, and environmental liabilities associated with nearby mining developments. As with Procter's work, Levitan and Cameron suggest that the seemingly inclusionary step of inviting northern Native communities into negotiations with companies may actually represent the affirmation of a neoliberal regime whereby northern social development programs become at least partially privatized within the (disturbingly) boom and bust capital flows associated with the mining industry. While mining companies and governments point to new industry–Native community partnerships as a marker of major change, the chapters in this section suggest that unequal power relations and colonial legacies still play a major role in shaping northern development projects.

The final section presents three chapters that examine the zombie-like afterlife of many mines, and the manner in which the history of these places is reflected in the contemporary reality of nearby communities. The first of these is Scott Midgley's discussion of the abandoned

Nanisivik lead-zinc mine on Baffin Island, which operated from 1976 to 2002. Midgley considers the post-closure debates over mine remediation at Nanisivik, arguing that, far from being valueless, the abandoned mine became a site of contested valuation (of land and environment), as the government and company insisted on scientific and cost-effective approaches to mine remediation while the Inuit of Arctic Bay expressed deep skepticism about the long-term efficacy of the proposed remediation plan. By contrast, Heather Green suggests in Chapter 11 that the fly-in, fly-out Polaris lead-zinc mine that operated on Little Cornwallis Island figures hardly at all in the historical memory of the service town of Resolute, located about ninety kilometres to the south on Cornwallis Island. Through oral history interviews, however, Green discovered that the relative amnesia surrounding Polaris is in part a product of Resolute's own experience of marginalization from the social and economic benefits of the development, and the mine persists mainly as a symbol of relative Inuit exclusion from previous development projects. The book's final chapter belongs to Yellowknife-based social and environmental activist Kevin O'Reilly, who provides a detailed yet passionate account of attempts to insert local voices into the remediation of the abandoned Giant Mine. Here, the federal department of Aboriginal Affairs and Northern Development Canada (AANDC) is proposing to contain through freezing 237,000 tons of arsenic trioxide stored underground at the mine, a staggering amount of highly toxic material that will require care and maintenance in perpetuity. O'Reilly tells a deeply disturbing story of how AANDC has resisted public involvement, environmental assessment, and independent oversight over the remediation project, reducing the deeply conflicted issues surrounding the historical mine site to a mere technical engineering problem. Perhaps more than any other site, the immense scale and complexity of remediating Giant illustrate the costly legacies associated with northern mining, and the deep conflicts these sites continue to provoke in the present.

It has been more than one hundred years since mining began in the Keno Hill Silver District, the site of the territorial north's first industrial-scale hardrock mines. What has a century of mining brought the Canadian North? Did the mines bring civilization or advance the agenda of settler colonialism? Did they bring untold riches or siphon wealth

from the region for other people living in other places? Did the mines bring economic development or dislocation, all the while bequeathing long-term and costly environmental problems that may not be solved for generations? The chapters in this book suggest that mining in Northern Canada brought all of these things. There is no doubt, for instance, that mining was one of the major stimulants of northward expansion in Canada, a colonial incursion into Native territory that has only recently been redressed, however inadequately, through land claims and IBA processes. The materials and much of the wealth from these mines did indeed follow many pathways out of town—gold to the vaults of central banks, lead and zinc to massive smelting facilities in Southern Canada or overseas, and uranium to the research laboratories of the Los Alamos atomic bomb project—but often provided only marginal employment benefits to the Native communities adjacent to the mines. At the same time, Native communities did often embrace mining development and mining labour as a hedge against tough times in the fur trade and hunting economies. Mining brought new communities and settlers to Northern Canada, but the collapse of many major developments left a legacy of nearly abandoned communities or ghost towns that stand as testaments to the ephemeral nature of the mineral economy. In some cases, the abandoned mines of Northern Canada have also produced environmental problems that afflicted the past and the present, and potentially could persist far into the future.

Almost all of our case studies illustrate the deeply conflicted historical experience of northern mining development that inevitably hangs over current debates about mine remediation, redevelopment, or new mining projects close to Native communities. If the history of northern mining is indeed a tangled legacy, the chapters in this book allow us a close-up view of these contradictory stories, and the ongoing attempts to reconcile the complex past with the opportunities and challenges that mining may present northern communities in the future. The renewed northern mining boom of the past decade has brought territorial governments, Native leaders (particularly the newly empowered land-claims organizations), and mining companies into new relationships, under circumstances very different than those surrounding twentieth-century mining. Yet as Virginia Gibson suggested in her study of diamond mining in the

Northwest Territories, while modern miners "may seek to enter the political geography of the north without acknowledging the past, [a] relational view of history reveals they will arrive with the shadows of ghost-mines behind them."[47] Our research into abandoned mines confirms that reckoning with the history, geography, and ongoing legacies of past rounds of extractive development is critical if large-scale mining has any chance of generating enduring prosperity and opportunities for sustainable economies in Northern Canada.

NOTES

1 Gloria Galloway, "Prime Minister Stephen Harper Pushes Mining Exploration in Arctic," *Globe and Mail*, August 24, 2011.

2 Stephanie Levitz, "Moiling for Gold: Harper Spends Second Day in the North at Area Mine," *Canadian Press*, August 21, 2012, accessed February 19, 2014, http://www.huffingtonpost.ca/2012/08/21/harper-arctic-trip-gold_n_1815787.html.

3 Pav Jordan, "Baffinland Iron Mines Sharply Scales Back Mary River Project," *Globe and Mail*, January 11, 2013; "Mining Slowdown Hurts North's Economy," *Canadian Press*, October 16, 2013, accessed February 19, 2014, http://www.cbc.ca/news/canada/north/mining-slowdown-hurts-north-s-economy-1.2075144. Meadowbank's travails are documented in Alistair MacDonald and John W. Miller, "Mining at Minus 45 Celsius Is No Picnic," *Wall Street Journal*, February 23, 2014, accessed February 25, 2014, http://online.wsj.com/news/articles/SB10001424052702303636404579392912016780616. Excellent sources for tracking the ups and downs of mining investment and activity in the North include the annual mining issues of the NWT and Nunavut *News/North* papers, as well as the Natural Resources Canada quarterly and annual mining statistics reports, available at http://www.nrcan.gc.ca/mining-materials/statistics/8848.

4 Brenda Bouw and David Ebner, "The Global Commodity Cycle Speeds Up," *Globe and Mail*, January 24, 2011; Daina Lawrence, "Canadian Government Fostering Arctic Exploration," *Resource World* 11 (December 2011/January 2012): 82–83.

5 Philip Cross, "Canada's North Finally Opens Up," *Financial Post*, March 22, 2012. Notably, mining's potential for northern development has been highlighted in a recent series of reports from the Conference Board of Canada's new "Centre for the North": see Conference Board of Canada, "Mapping the Economic Potential of Canada's North" (Ottawa: December 2010);

Conference Board of Canada, "Toward Thriving Northern Communities" (Ottawa: December 2010); Conference Board of Canada, "The Future of Mining in Northern Canada" (Ottawa: January 2013).

6 Kenneth J. Rea, *The Political Economy of the Canadian North* (Toronto: University of Toronto Press, 1968), 439.

7 Indeed, not all the students or community researchers involved in the project are represented in this volume, for various reasons. Nevertheless, their contributions to this collective research effort certainly shaped the overall project in important ways through writing, conversations, and interactions in communities.

8 For Innis's important writings on mining and/or staples production, see Daniel Drache, ed., *Staples, Markets, and Cultural Change: Selected Essays*, Innis Centenary Series (Montreal: McGill-Queen's University Press, 1995); Harold Adams Innis, *The Fur Trade in Canada: An Introduction to Canadian Economic History*, rev. ed. (Toronto: University of Toronto Press, 1956); Harold Adams Innis, *Settlement and the Mining Frontier* (Toronto: Macmillan, 1936); Harold Adams Innis, *The Problems of Staple Production in Canada* (Toronto: Ryerson Press, 1933). For discussion, see Matthew Evenden, "The Northern Vision of Harold Innis," *Journal of Canadian Studies* 34 (1999): 162–86. For a discussion of Innis's linking of mining, industrialism, and settlement in Northern Canada, see Liza Piper, "Innis, Biss, and Industrial Circuitry in the Canadian North, 1921–1965," in *Harold Innis and the North: Appraisals and Contestations*, ed. William J. Buxton (Montreal and Kingston: McGill-Queen's University Press, 2013), 127–48.

9 John H. Bradbury, "Towards an Alternative Theory of Resource-Based Town Development in Canada," *Economic Geography* 55, no. 2 (1979): 147–66; John H. Bradbury, "Declining Single-Industry Communities in Quebec-Labrador, 1979–1983," *Journal of Canadian Studies* 19, no. 3 (1984): 125–39; John H. Bradbury, "The Impact of Industrial Cycles in the Mining Sector: The Case of the Quebec-Labrador Region in Canada," *International Journal of Urban and Regional Research* 8 (1984): 311–31; John H. Bradbury and Isabelle St.-Martin, "Winding Down in a Quebec Mining Town: A Case Study of Schefferville," *Canadian Geographer* 27, no. 2 (1983): 128–44. See also Cecily Neil, Markku Tykkyläinen, and John Bradbury, eds., *Coping with Closure: An International Comparison of Mine Town Experiences* (New York: Routledge, 1992).

10 Trevor Barnes, "Borderline Communities: Canadian Single Industry Towns, Staples, and Harold Innis," in *B/ordering Space*, eds. Henk Van Houtum, Olivier Kramsch, and Wolfgang Zierhofer (Burlington, VT: Ashgate Publishing, 2005), 109–22. For other scholars of mining influenced by Innis, see Arn Keeling, "'Born in an Atomic Test Tube': Landscapes of Cyclonic Development at Uranium City, Saskatchewan," *Canadian Geographer* 54, no. 2 (2010):

228–52; Mary Louise McAllister, "Shifting Foundations in a Mature Staples Industry: A Political Economic History of Canadian Mineral Policy," *Canadian Political Science Review* 1 (June 2007): 73–90. See also Jody Berland, "Space at the Margins: Critical Theory and Colonial Space after Innis," in *Harold Innis in the New Century*, eds. Charles R. Acland and William J. Buxton (Montreal and Kingston: McGill-Queen's University Press, 1999).

11 William Cronon, "Kennecott Journey: The Paths out of Town," in *Under an Open Sky: Rethinking America's Western Past*, eds. William Cronon, George Miles, and Jay Gitlin (New York: W. W. Norton, 1992); Kathryn Morse, *The Nature of Gold: An Environmental History of the Klondike Gold Rush* (Seattle: University of Washington Press, 2003). Important recent mining histories from south of the border that make similar connections include Thomas G. Andrews, *Killing for Coal: America's Deadliest Labor War* (Cambridge, MA: Harvard University Press, 2008); Gray Brechin, *Imperial San Francisco: Urban Power, Earthly Ruin* (Berkeley: University of California Press, 1999); Kathleen A. Brosnan, *Uniting Mountain and Plain: Cities, Law, and Environment along the Front Range* (Albuquerque: University of New Mexico Press, 2002); Andrew C. Isenberg, *Mining California: An Ecological History* (New York: Hill and Wang, 2005); Eugene Moehring, *Urbanism and Empire in the Far West, 1840–1890* (Reno: University of Nevada Press, 2004). Sociologists have made useful contributions in this regard as well: see for instance Scott Frickel and William R. Freudenburg, "Mining the Past: Historical Context and the Changing Implications of Natural Resource Extraction," *Social Problems* 43, no. 4 (1996): 444–66. For a solid contemporary overview focused on the Lower 48, see Lisa J. Wilson, "Riding the Resource Roller Coaster: Understanding Socioeconomic Differences between Mining Communities," *Rural Sociology* 69, no. 2 (2009): 261–81.

12 The first major critique of the Pine Point Mine and its impact on nearby Dene communities appeared in Thomas Berger's report on the Mackenzie Valley Pipeline Inquiry in the 1970s. This section merges staples theory with the Dene critiques that emerged during the hearings. See Thomas Berger, *Northern Frontier, Northern Homeland: The Report of the Mackenzie Valley Pipeline Inquiry, Vol. 1* (Toronto: James Lorimer and Co., 1977). One scholarly work that flowed out of the pipeline debate was Mel Watkins, ed., *Dene Nation: The Colony Within* (Toronto: University of Toronto Press, 1977). See also Lisa Sumi and Sandra Thomsen, *Mining in Remote Areas: Issues and Impacts* (Ottawa: MiningWatch Canada, 2001); Délı̨nę Uranium Team, *If Only We Had Known: The History of Port Radium as Told by the Sahtúot'ı̨nę* (Délı̨nę, NWT: Délı̨nę Uranium Team, 2005); Heather Myers, *Uranium Mining in Port Radium, N.W.T: Old Wastes, New Concerns* (Ottawa: Canadian Arctic Resources Committee, August 1982); Janet E. Macpherson, "The Pine Point Mine" and "The Cyprus Anvil Mine," in *Northern Transitions, Volume I: Northern*

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29 See, for example, Robert McPherson, *New Owners in Their Own Land: Minerals and Inuit Land Claims* (Calgary: University of Calgary Press, 2003). For a discussion of impact and benefit agreements, see Levitan and Cameron, this volume.

30 John Sandlos and Arn Keeling, "Zombie Mines and the (Over)Burden of History," *Solutions Journal* 4, no. 3 (2013): 80–83.

31 Office of the Auditor General of Canada, "Report of the Commissioner of the Environment and Sustainable Development, 2002" (Ottawa: Minister of Public Works and Services, 2002), chapters 2 and 3. A 2012 report from the same office reviewed the growing financial liabilities for federal contaminated sites remediation, highlighting Giant and Faro mines as two of the four highest reported liabilities. "Report of the Commissioner of the Environment and Sustainable Development – Spring 2012" (Ottawa: Minister of Public Works and Services, 2012), chapter 3.

32 Mines in the territorial north underdoing remediation and/or monitoring under the Northern Contaminants Program include Cantung, Colomac, Con, Contact Lake, Discovery, El Bonanza, Faro, Giant, Indor/Beaverlodge, Keno Hill, Mt. Nansen, Nanisivik, North Inca, Port Radium, Rayrock, Sawmill Bay, and Silver Bay Properties. Of these sites, Cantung, Contact Lake, Discovery, and Keno Hill are simultaneously being redeveloped for new mining activity. Pine Point and Lupin also have proposals for mine redevelopment pending. See AANDC, Contaminants and Remediation Directorate, "Contaminated Sites Remediation: What's Happening in the Sahtu?," March 2009, accessed February 19, 2014, http://publications.gc.ca/collections/

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33 For examples of publications using oral history in analyses of mining community formation and history, see Thomas Dublin, *When the Mines Closed: Stories of Struggle in Hard Times* (Ithaca, NY: Cornell University Press, 1998); Janet Finn, *Tracing the Veins: Of Copper, Culture, and Community from Butte to Chuquicamata* (Berkeley: University of California Press, 1998); Mary Murphy, *Mining Cultures: Men, Women, and Leisure in Butte, 1914–41* (Urbana: University of Illinois Press, 1997); Lynne Bowen, *Boss Whistle: The Coal Miners of Vancouver Island Remember*, rev. ed. (Nanaimo, BC: Rocky Point Books, 2002). Community-driven and public oral history projects related to mining are popular in mining regions and are too numerous to list!

34 Robertson, *Hard Places*; Goin and Raymond, "Living in Anthracite."

35 Karen Bescherer Metheny, *From the Miner's Doublehouse: Archaeology and Landscape in a Pennsylvania Coal Company Town* (Knoxville: University of Tennessee Press, 2007); Ashley Ward, "Reclaiming Place through Remembrance: Using Oral Histories in Geographic Research," *Historical Geography* 40 (2012): 133–45.

36 Délı̨nę Uranium Team, *If Only We Had Known*; Lianne Leddy, "Cold War Colonialism: The Serpent River First Nation and Uranium Mining, 1953–1988" (PhD thesis, Wilfrid Laurier University, 2011); Lianne Leddy, "Interviewing *Nookomis* and Other Reflections: The Promise of Community Collaboration," *Oral History Forum d'histoire orale* 30 (2010): 1–18; Brugge, Benally, and Yazzie-Lewis, *The Navajo People and Uranium Mining*.

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38 Donald A. Ritchie, *Doing Oral History*, 2nd ed. (Oxford: Oxford University Press, 2003), chapter 1; Alistair Thomson, "Four Paradigm Transformations

in Oral History," *Oral History Review* 34, no. 1: 49–70; David Neufeld, "Parks Canada, The Commemoration of Canada, and Northern Aboriginal Oral History," in *Oral History and Public Memories*, ed. Paula Hamilton (Philadelphia: Temple University Press, 2008), 26–48.

39 Margaret Kovach, "Emerging from the Margins: Indigenous Methodologies," in *Research as Resistance: Critical, Indigenous, and Anti-oppressive Approaches*, ed. Leslie A. Brown and Susan Strega (Toronto: Canadian Scholars' Press, 2005), 19–36; Kathy Absolon and Cam Willett, "Putting Ourselves Forward: Location in Aboriginal Research," in *Research as Resistance*, 97–126; Shawn Wilson, *Research Is Ceremony: Indigenous Research Methods* (Winnipeg: Fernwood Publishing, 2008).

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41 Linda Shopes, "Oral History and the Study of Communities: Problems, Paradoxes, and Possibilities," *Journal of American History* 89, no. 2 (Sept. 2002): 588–98.

42 Ibid., 597.

43 Paula Hamilton and Linda Shopes, "Introduction: Building Partnerships between Oral History and Memory Studies," in *Oral History and Public Memories*, vii–xvii; David Lowenthal, *The Past Is a Foreign Country* (Cambridge: Cambridge University Press, 1985), chapter 5; Dydia DeLyser, "Authenticity on the Ground: Engaging the Past in a California Ghost Town," *Annals of the Association of American Geographers* 89, no. 4 (1999): 602–32. For a useful introduction to the idea of collective "social" memory, see Bernd Steinbock, *Social Memory in Athenian Public Discourse: Uses and Meanings of the Past* (Ann Arbor: University of Michigan Press, 2013), 7–19.

44 Metheny, *From the Miner's Doublehouse,* 252.

45 These guidelines are outlined at Panel on Research Ethics, *TCPS 2—2nd edition of Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans*, accessed February 19, 2014, http://www.pre.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/Default/.

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47 Virginia Valerie Gibson, "Negotiated Spaces: Work, Home, and Relationships in the Dene Diamond Economy" (PhD diss., University of British Columbia, 2008), 81–82.